Job Risk Analysis

Name(s) of Risk Team Members: T. Dilgen, J. Durnan, D. Passarello, C. Porretto	Point Value → Parameter ↓	1	2	3	4	5
Job Title: Material Handling, Machinery Job Number or Job Identifier: JRA # 2-05	Frequency (B)	≤once/year	≤once/month	≤once/week	≤once/shift	>once/shift
Job Description: Lifting and moving LHC magnet by overhead crane	Severity (C)	First Aid Only	Medical Treatment	Lost Time	Partial Disability	Death or Permanent Disability
Training and Procedures List (optional): Crane Operator training (web-based course and practical), Basic Rigging training, Back Safety training Approved by: *E. Lessard* Date: 3-31-2005 Rev. #: 0	Likelihood (D)	Highly Unlikely	Unlikely	Possible	Probable	Multiple

Stressors (if applicable, please list all): DOE identified training deficiencies in hoisting and lifting program as stressors.	Reason for Revision (if applicable):	Comments: The DDO for BNL is implementing a formal program to improve hoisting and rigging at BNL based on observations by a DOE ISM Team on August 13, 2004.

				Before Additional Controls						After Additional Controls						
Job Step / Task	Hazard	Control(s)	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	Control(s) Added to Reduce Risk	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	% Risk Reduction
Select rigging equipment, move to or from load area	Falls on same level	Work planning, PPE (slip-resistant footwear), training, housekeeping, Tier 1 inspections	Y	2	4	3	1	24								
Select rigging equipment, move to or from load area	Overexertion – injuries caused by excessive lifting, pushing, pulling, holding, carrying	Back safety training, use of squat lift technique, work planning, PPE, training, Tier 1 inspections	Y	2	4	2	2	32								
Inspect rigging equipment and crane	Falls to same level	Work planning, PPE (slip-resistant footwear), training, housekeeping, Tier 1 inspections	Y	2	4	3	1	24								
Inspect rigging equipment and crane	Overexertion – injuries caused by excessive lifting, pushing, pulling, holding, carrying	Back safety training, use of squat lift technique, work planning, PPE, training, Tier 1 inspections	Y	2	4	2	2	32								
Install slings on magnet	Falls to same level	Work planning, PPE (slip-resistant footwear), training, housekeeping, Tier 1 inspections	Y	2	4	3	1	24								

Install slings on magnet	Overexertion – injuries caused by excessive lifting, pushing, pulling, holding, carrying	Back safety training, use of squat lift technique, work planning, PPE, training, Tier 1 inspections	Y	2	4	2	1	16									
Position crane over lifting beam	Getting struck by hook or hitting other objects or people with hook while moving	Engineered lift, MAP, work planning, PPE, training, PE & SMD inspection and maintenance of equipment, SBMS Subject Areas, Tier 1 inspections, known route and area checked clear prior to movement, visible and audible alarms on cranes as required, directional markings on crane and pendant, availability of engineering input, supervisor assigns experienced staff, communication between staff	Y	2	4	2	1	16									
Rig beam/connect to hook	Falls to same level	Engineered Lift, MAP, work planning, PPE (slip-resistant footwear), training, housekeeping, Tier 1 inspections	Y	2	4	3	1	24									
Rig beam/connect to hook	Overexertion – injuries caused by excessive lifting, pushing, pulling, holding, carrying	Back safety training, use of squat lift technique, work planning, PPE, training, Tier 1 inspections	Y	2	4	2	2	32									
Lift beam and position beam near magnet	Getting struck by dropped load or hitting other objects or people with load while moving	Engineered Lift, MAP, work planning, PPE, training, PE & SMD inspection and maintenance of equipment, SBMS Subject Areas, Tier 1 inspections, known weight of load, known center of gravity of load, known lifting points on load, route and area checked clear prior to movement, visible and audible alarms on cranes as required, directional markings on crane and pendant, availability of engineering input, use of tag lines, supervisor assigns experienced staff, communication between staff	Y	2	4	3	1	24									
Connect slings to beam	Falls to same level	Work planning, PPE (slip-resistant footwear), training, housekeeping, Tier 1 inspections	Y	2	4	3	1	24									
Connect slings to beam	Overexertion – injuries caused by excessive lifting, pushing, pulling, holding, carrying	Back safety training, use of squat lift technique, work planning, PPE, training, Tier 1 inspections	Y	2	4	2	1	16									

Lift beam and magnet and move to new location	Getting struck by dropped load or hitting other objects or people with load while moving	Engineered lift, MAP, work planning, PPE, training, PE & SMD inspection and maintenance of equipment, SBMS Subject Areas, Tier 1 inspections, known weight of load, known center of gravity of load, known lifting points on load, route and area checked clear prior to movement, visible and audible alarms on cranes as required, directional markings on crane and pendant, availability of engineering input, use of tag lines, supervisor assigns experienced staff, communication between staff, Lessons Learned on anti-chafing material	Y	2	4	5	1	40									
Lower magnet and set in place	Load tipping/falling	Engineered lift, MAP, work planning, PPE, training, PE & SMD inspection and maintenance of equipment, SBMS Subject Areas, Tier 1 inspections, known weight of load, known center of gravity of load, known lifting points on load, route and area checked clear prior to movement, visible and audible alarms on cranes as required, directional markings on crane and pendant, availability of engineering input, use of tag lines, supervisor assigns experienced staff, communication between staff	Y	2	4	5	1	40									
Lower beam; remove slings	Falls to same level	Work planning, PPE (slip-resistant footwear), training, housekeeping, Tier 1 inspections	Y	2	4	3	1	24									
Lower beam; remove slings	Overexertion – injuries caused by excessive lifting, pushing, pulling, holding, carrying	Back safety training, use of squat lift technique, work planning, PPE, training, Tier 1 inspections	Y	2	4	2	2	32									
Lower beam; remove slings	Getting struck by dropped load or hitting other objects or people with load while moving	Engineered lift, MAP, work planning, PPE, training, PE & SMD inspection and maintenance of equipment, SBMS Subject Areas, Tier 1 inspections, known weight of load, known center of gravity of load, known lifting points on load, route and area checked clear prior to movement, visible and audible alarms on cranes as required, directional markings on crane and pendant, availability of engineering input, use of tag lines, supervisor assigns experienced staff, communication between staff	Y	2	4	3	1	24									
Place beam on ground	Falls to same level	Work planning, PPE (slip-resistant footwear), training, housekeeping, Tier 1 inspections	Y	2	4	3	1	24									

Store rigging equipment	Falls to same level	Work planning, PPE (slip-resistant footwear), training, housekeeping, Tier 1 inspections	Y	2	4	3	1	24										
Store rigging equipment	Overexertion – injuries caused by excessive lifting, pushing, pulling, holding, carrying	Back safety training, use of squat lift technique, work planning, PPE, training, Tier 1 inspections	Y	2	4	2	2	32										
Place crane in safe position	Falls to same level	Work planning, PPE (slip-resistant footwear), training, housekeeping, Tier 1 inspections	Y	2	4	3	1	24										
Further Description of Controls Added to Reduce Risk:																		

*Risk:	0 to 20	21 to 40	41-60	61 to 80	81 or greater
	Negligible	Acceptable	Moderate	Substantial	Intolerable